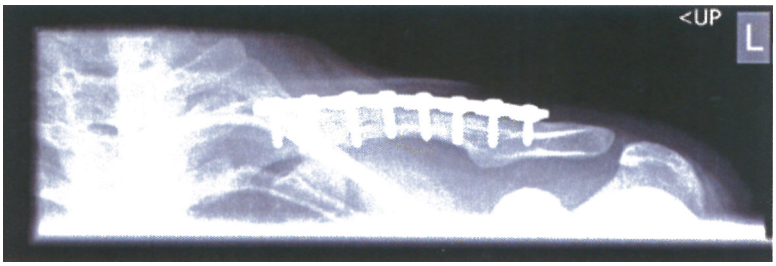


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**2A.19**

## Outcomes of distal radius fracture fixation with APTUS locking plates and variable angle locking screws

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*Purpose*: Various methods have been described to treat unstable fractures of the distal radius. In recent times, there has been a surge in the use of volar plating for distal radius fractures. Our paper examines the clinical, functional and radiological outcomes of distal radius fracture fixation with the APTUS locking plates and variable angle locking screws.

*Methods*: We conducted a retrospective cohort study on 30 patients with distal radius fractures. The fractures were classified according to the AO fracture classification system. Clinical assessment was made using the DASH score. We measured range of movement of the wrist joint and documented any post-operative complication. Post-operative *x*-rays were obtained to assess fracture union, restoration of anatomy and the presence osteoarthritic changes. Post-operative patients were seen every 2 weeks.

*Results*: There were 10 males and 20 females who were treated. The mean age was 41.1 years and the mean follow-up was 5.0 months. Mean post-operative dorsiflexion was 52.4°. Mean post-operative volarflexion was 49.2. All fractures had united on final follow-up. Congruent articular surfaces were achieved without articular step-off. Reduction was maintained when union was achieved. The mean DASH score was 26.9. Two patients developed post-traumatic osteoarthritis. One patient had intra-articular screw placement and subsequently developed post-operative carpal tunnel syndrome after the screw was removed. Six patients had metalwork removed.

*Conclusions*: Volar distal radius locking plates have expanded the scope for internal fixation of distal radius fractures via the volar approach. The new generation of variable angle locking systems have the added benefits of more flexible implant positioning and may allow enhanced intra-fragmentary reduction and fixation of intra-articular fractures. Inadvertent placement of screws into the DRUJ or radiocarpal joint is still a concern. We discuss early functional and radiological outcomes of the APTUS plating system in complex distal radius fractures.

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**2A.20**

## Functional outcome of proximal humerus fracture treated by PHILOS plate

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*Introduction*: The aim of this study was to assess the intermediate functional out come and complications of the patient who had undergone open reduction and internal fixation with PHILOS Plate fixation following fracture of the proximal humerus. The locking plates have extended the indication to osteoporotic and poor bone quality.

*Patients and methods*: Retrospective data was collected from January 2004 to May 2009 of patients who had sustained a proximal humerus fracture and treated with PHILOS plating. Injuries were classified according to the Neer system. Functional out come was measured using DASH (disabilities of the arm, shoulder and hand) and Oxford scoring system. Radiographic assessment for osteonecrosis and implant failure was also completed.

*Results*: Forty-eight patients were identified. There were 19 male and 29 female. The mean age 55.3 years (range 20–89). Fourteen patients had 4-part, twenty-five 3-part and nine 2-part fractures. Patients were follow-up from 9 to 18 months mean was (14 months). All fracture united in satisfactory position. Three patients developed superficial wound infection, one patient developed radial nerve palsy which recovered spontaneously within (6) months, one patient had broken distal screw, three patients impingement syndrome, one patient had complex regional pain syndrome, rotator cuff tear in two patients. There were no screw perforations, implant failure, avascular necrosis or vascular injury. Thirty-one patients returned the DASH and Oxford shoulder questionnaires. Four patients died, four patients have terminal diseases, two patients have severe dementia and seven patients were lost in follow-up. The mean post op Oxford score was 42.4 (range 13–48) and the mean DASH score was 10.1 (0–54). Most of the patients had returned back to their normal jobs and hobbies such as gardening, swimming and bowling.

*Conclusion*: Internal fixation using PHILOS plate is a reliable method of treating fracture of proximal humerus. It provides stable fixation and allow early shoulder mobilisation. The functional out come is satisfactory with minor complications.

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